

N° 13,687



A.D. 1904

Date of Application, 16th June, 1904

Complete Specification Left, 16th Mar., 1905—Accepted, 11th May, 1905

PROVISIONAL SPECIFICATION.

A New or Improved Apparatus for Treating Animal Colics or Gripes.

I, ANTON HEPNAR, of 20, Königstor, Kassel, in the Empire of Germany, Coachman, do hereby declare the nature of this invention to be as follows:—

My invention relates to a new or improved enema or apparatus for treating animal colics or gripes by evacuating the feces from the large intestine, filling
5 the entrails with water mixed with curatives and assisting the healing process by insufflating antiseptic gases. The new apparatus essentially consists of a double-acting pump arranged for sucking and expelling water at the bottom and air at the top, a mixing vessel provided with a perforated box for drugs or medicaments and arranged for developing smoke or gases from the drugs or
10 medicaments and mixing them with the air, a three-way cock for the passage of either the water or the mixture of air and smoke or gas, a device for opening the water suction valve of the pump in case the mixture of air and smoke or gas is passed through the three-way cock, two hoses one within the other, a mouthpiece to be introduced into the animal anus, and a switching device for
15 arbitrarily passing the water or the mixture of air and smoke or gas from the three-way cock to the animal body through the internal hose or through the space between the two hoses while allowing the dirty water or gases to return through the annular space between the two hoses or through the internal hose respectively and to escape, or not allowing the same to escape.

20 I will now proceed to describe my invention with reference to the accompanying drawings, in which—

Fig. 1 is an elevation of the whole apparatus, a part of the two hoses being omitted,

25 Fig. 2 is a side view of the upper part of the mixing vessel, seen in the direction from right to left in Fig. 1,

Figs. 4 to 9, inclusive, show the two parts of the switching device in different positions and will be referred to later on,

Fig. 10 is a cross section of the plug of the three-way cock and shows its position, when its lever *q* occupies the position illustrated at Fig. 1,

30 Fig. 11 shows the position of this plug on the lever *q* occupying the other extreme position indicated by the dotted line at Fig. 1,

Fig. 3. is a plan of the lower valve box and the three way cock, the pump and the mixing vessel being omitted and the lever *q* shown in section,

35 Fig. 12 is a longitudinal section on an enlarged scale through the switching device on the line A—B in Fig. 8.

Similar characters of reference refer to similar parts throughout the several views.

The pump P comprises a bottom valve box 6, a cylinder *b* screwed thereon, a cover 7 and a piston *a*, which latter is connected with a rod 8 passing through

[Price 8d.]

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the stuffing box of the cover 7 and can be moved up and down by hand with the aid of the handle 9. The bottom valve box 6 is preferably pivotally connected with a base formed of two plates *w* and *x*, so that the whole apparatus can be turned around the vertical axis of the cylinder *b*. A water suction hose *c* can be attached to the bottom valve box 6 by means of a threaded coupling 10 of any known construction. The bottom valve box 6 comprises two separate chambers for the suction valve *d* and the delivery valve *e*, which latter is shown to be pressed upward on its seat by a suitable spring. The cover 7 is provided with a spring-pressed air suction valve *t* and a spring-pressed air delivery valve *u*. 5 10

The three-way cock T comprises a casing 11, a plug *f* and a lever *q*. The casing 11 is shown as cast in one piece with the bottom valve box 6 and its left passage in Fig. 1 communicates with the chamber of the delivery valve *e* already mentioned above. The nave of the lever *q* is pivotally connected by a rod 12 with a lever 13 fastened on a shaft *r* in the bottom valve box 6. On this shaft *r* is affixed a lever *s*, which is adapted to open the suction valve *d* on turning the lever from the right position shown at Fig. 1. 15 to the left position indicated by the dotted line.

The mixing vessel M is screwed on the three-way cock T by means of a threaded coupling 14 of any known construction. It comprises a cylinder *p*, a perforated box or receptacle *v* and a cover 15, which latter is hinged to a lever 16 and can be closed by means of a turnable bolt 17 and a thumb-nut 18. The lever 16 is forked at its free end to permit the bolt 17 to engage in its recess. After unscrewing the thumb-nut 18 and turning downward the bolt 17 in the direction of the arrow the cover 15 can be turned upwards to open the cylinder *p*. Preferably the cover 15 is provided with a suitable packing disk for tightening the cylinder. The upper part of the cylinder *p* communicates with the chamber of the air delivery valve *u* already referred to above. The perforated box or receptacle *v* may be left open at the top and is arranged for containing the medical drugs, or the like from which smoke or gases are to be developed by burning or otherwise. 20 25 30

The switching device S with the double hose can be attached to the three-way cock T by means of a threaded coupling 19 of any known construction. This device consists of two members *y* and *z* connected by a pivot 20 and two nuts 21, 21, so that the one member *z* provided with a handle *k* can be turned on the other member *y* around a horizontal axis. The member *y* is hollow and communicates with the right passage of the three-way cock T in Figure 1. On the face in contact with the member *z* the member *y* is provided with two holes 1 and 2, see Figs. 4 and 6 of which the one 1 leads to its cavity and the other hole 2 to without, as is clearly shown at Fig. 12. The member *z* is divided by a partition wall *m* into two chambers *n* and *o* of which the one *n* communicates with two holes 4 and 5 on the face in contact with the member *y* and the other chamber *o* communicates with the third hole 3, see Fig. 12. Fig. 5 represents the face of the member *z* with the three holes 3, 4 and 5, *i.e.* when looked at from left to right in Fig. 1. Figs. 7, 8 and 9 are cross sections through the member *z* on the line C—D in Fig. 1, when looked at from right to left, and show different positions of this member. The partition wall *m* is cast in one piece with a central tubular piece 22, on which the one end of the internal hose *h* is conveniently secured. The external cover 23 of the member *z* is cast in one piece with a tubular piece 24, on which the one end of the external hose *g* is conveniently secured. It will be seen, that the chamber *n* communicates with the internal hose *h* and the chamber *o* with the space between the two hoses *g* and *h*. 35 40 45 50

The other ends of these two hoses *g* and *h* are conveniently connected with a mouthpiece *i*. The latter has a central passage communicating with the internal hose *h* and an annular space communicating on the one hand with the space between the two hoses *g* and *h* and on the other hand with a plurality 55

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of perforations 25 arranged in the conical end face. The mouthpiece *i* can be introduced into the animal anus.

The apparatus is operated as follows:

After putting up the pump P and the mixing vessel M on the soil or floor the
 5 suction hose *c* is inserted in the source of water and attached to the bottom valve
 box 6. The member *z* is placed in the convenient position, for example by
 bringing its handle *k* into the position shown at Fig. 8, so that the holes 3 and 5
 of this member register with those 1 and 2 respectively of the other member *y*
 as is shown at Fig. 12. This means, that the right passage of the three-way
 10 cock T in Fig. 1 is put into communication with the annular space between the
 two hoses *g* and *h*, while the internal hose communicates through the hole 2 with
 the atmosphere. The lever *q* is brought into the position shown in full lines
 at Fig. 1, so that by the plug *f*, see Fig. 10, the right passage is put into com-
 munication with the left passage, that is to say with the pump P, while the
 15 suction valve *d* is relieved from the lever *s*. The handle 9 is moved up and down
 several times to suck water, until water flows out of the mouthpiece *i*, when the
 latter is introduced into the animal anus. On forcing downward the handle 9
 water will pass through the annular space between the two hoses *g* and *h* into
 the large intestine and successively loosen and drive out the feces through the
 20 infernal hose *h* to without. Thus all objectionable dammings or pressures are
 avoided. The handle 9 may be moved up and down several times. Meanwhile
 the perforated box or receptacle *v* is filled with drugs or other medicaments,
 either kindled or not as the case may be and introduced into the cylinder *p*,
 after which the cover 15 is closed. At a convenient moment the lever *q* is turned
 25 to the left into the other position indicated by the dotted line in Fig. 1 to place
 the right passage of the three-way cock T into communication with the mixing
 vessel M, see Fig. 11, and to check the delivery of water by opening the suction
 valve *d*. On forcing the handle 9 downward air will enter the cylinder *b* through
 the inlet valve *t* and on moving upward the handle 9 this air will pass through
 30 the opened delivery valve *u* and the drugs or the like in the box *v* and mix with
 the smoke or gases while in the former case effecting the combustion. This
 mixture passes through the three-way cock T and the space between the two
 hoses *g* and *h* into the entrails where the smoke or gases will act antiseptically
 or stimulate the healing process respectively as the case may be. If it is desired
 35 to prevent smoke or gases from escaping through the hole 2, the member *z* is so
 turned as to bring its handle *k* into the vertical position (see Figs. 5 & 7), so
 that the hole 4 of the member *z* registers with that 1 of the other member *y*,
 while all the other holes 3, 5 and 2 remain covered. Then the mixture of air
 and smoke or gas passes through the internal hose *h* to the animal body and is
 40 allowed to exert its influence. From time to time, if so desired, the lever *q* may
 be reversed to turn on the water. When so preferred, the member *z* may be so
 turned as to bring its handle *k* into the opposite horizontal position shown at
 Fig. 9, when its holes 5 and 3 will register with those 1 and 2 respectively of the
 member *y*. This means that the water or the mixture of air and smoke or gas
 45 will now pass through the internal hose *h* to the animal body and return through
 the perforations 25 of the mouthpiece *i* and the space between the two hoses *g*
 and *h* to without through the hole 2.

It is obvious, that the manner of operating the apparatus or treating the
 animal will have to depend upon the circumstances and must be left to the judg-
 50 ment of the veterinary.

The apparatus described so far may be varied in many respects without deviat-
 ing from the spirit of my invention.

Dated this 16th day of June 1904.

For the Applicant,

J. G. LORRAIN,
 Chartered Patent Agent.

A New or Improved Apparatus for Treating Animal Colics or Gripes.

COMPLETE SPECIFICATION.

A New or Improved Apparatus for Treating Animal Colics or Gripes.

I, ANTON HEPNAR, of 20, Königstor, Kassel, in the Empire of Germany, Coachman, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to a new or improved enema or apparatus for treating 5 animal colics or gripes by evacuating the feces from the large intestines, filling the entrails with water mixed with curatives and assisting the healing process by insufflating antiseptic gases. The new apparatus essentially consists of a double-acting pump arranged for sucking and expelling water at the bottom and air at the top, a mixing vessel provided with a perforated box for drugs 10 or medicaments and arranged for developing smoke or gases from the drugs or medicaments and mixing them with the air, a three-way cock for the passage of either the water or the mixture of air and smoke or gas, a device for opening the water suction valve of the pump in case the mixture of air and smoke or gas is passed through the three-way cock, two hoses one within the other, a 15 mouthpiece to be introduced into the animal anus, and a switching device for arbitrarily passing the water or the mixture of air and smoke or gas from the three-way cock to the animal body through the internal hose or through the space between the two hoses while allowing the dirty water or gases to return through the annular space between the two hoses or through the internal hose 20 respectively and to escape, or not allowing the same to escape.

I will now proceed to describe my invention with reference to the drawings filed with the Provisional Specification, in which—

Fig. 1 is an elevation of the whole apparatus, a part of the two hoses being omitted. 25

Fig. 2 is a side view of the upper part of the mixing vessel, seen in the direction from right to left in Figure 1.

Figs. 4 to 9 inclusive show the two parts of the switching device in different positions and will be referred to later on.

Fig. 10 is a cross section of the plug of the three-way cock and shows its position, when its lever *q* occupies the position illustrated at Figure 1. 30

Fig. 11 shows the position of this plug on the lever *q* occupying the other extreme position indicated by the dotted line at Figure 1.

Fig. 3 is a plan of the lower valve box and the three-way cock, the pump and the mixing vessel being omitted and the lever *q* shown in section. 35

Fig. 12 is a longitudinal section on an enlarged scale through the switching device on the line A—B in Figure 8.

Similar characters of reference refer to similar parts throughout the several views.

The pump P comprises a bottom valve box 6, a cylinder *b* screwed thereon, 40 a cover 7 and a piston *a*, which latter is connected with a rod 8 passing through the stuffing box of the cover 7 and can be moved up and down by hand with the aid of the handle 9. The bottom valve box 6 is preferably pivotally connected with a base formed of two plates *w* and *x*, so that the whole apparatus can be turned around the vertical axis of the cylinder *b*. A water suction 45 hose *c* can be attached to the bottom valve box 6 by means of a threaded coupling 10 of any known construction. The bottom valve box 6 comprises two separate chambers for the suction valve *d* and the delivery valve *e*, which latter is shown to be pressed upward on its seat by a suitable spring. The

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cover 7 is provided with a spring-pressed air suction valve *t* and a spring-pressed air delivery valve *u*.

5 The three-way cock T comprises a casing 11, a plug *f* and a lever *q*. The casing 11 is shown as cast in one piece with the bottom valve box 6 and its left passage in Figure 1 communicates with the chamber of the delivery valve *e* already mentioned above. The nave of the lever *q* is pivotally connected by a rod 12 with a lever 13 fastened on a shaft *r* in the bottom valve box 6. On this shaft *r* is affixed a lever *s*, which is adapted to open the suction valve *d* on turning the lever from the right position shown at Figure 1
10 to the left position indicated by the dotted line.

The mixing vessel M is screwed on the three-way cock T by means of a threaded coupling 14 of any known construction. It comprises a cylinder *p*, a perforated box or receptacle V and a cover 15, which latter is hinged to a lever 16 and can be closed by means of a turnable bolt 17 and a thumb-nut 18. The lever 16 is forked at its free end to permit the bolt 17 to engage in its recess. After unscrewing the thumb-nut 18 and turning downward the bolt 17 in the direction of the arrow the cover 15 can be turned upwards to open the cylinder *p*. Preferably the cover 15 is provided with a suitable packing disk for tightening the cylinder. The upper part of the cylinder *p*
15 communicates with the chamber of the air delivery valve *u* already referred to above. The perforated box or receptacle *v* may be left open at the top and is arranged for containing the medical drugs, or the like from which smoke or gases are to be developed by burning or otherwise.

20 The switching device S with the double hose can be attached to the three-way cock T by means of a threaded coupling 19 of any known construction. This device consists of two members *y* and *z* connected by a pivot 20 and two nuts 21, 21, so that the one member *z* provided with a handle *k* can be turned on the other member *y* around a horizontal axis. The member *y* is hollow and communicates with the right passage of the three-way cock T in Figure 1. On
25 the face in contact with the member *z* the member *y* is provided with two holes 1 and 2, see Figs. 4 and 6, of which the one 1 leads to its cavity and the other hole 2 to without, as is clearly shown at Fig. 12. The member *z* is divided by a partition wall *m* into two chambers *n* and *o* of which the one *n* communicates with two holes 4 and 5 on the face in contact with the member *y* and the other chamber *o* communicates with the third hole 3, see Fig. 12. Fig. 5 represents the face of the member *z* with the three holes 3, 4 and 5, *i.e.* when looked at from left to right in Fig. 1. Figs. 7, 8 and 9 are cross sections through the member *z* on the line C—D in Fig. 1, when looked at from right to left, and show different positions of this member. The partition wall *m* is
35 cast in one piece with a central tubular piece 22, on which the one end of the internal hose *h* is conveniently secured. The external cover 23 of the member *z* is cast in one piece with a tubular piece 24, on which the one end of the external hose *g* is conveniently secured. It will be seen, that the chamber *n* communicates with the internal hose *h* and the chamber *o* with the space
40 between the two hoses *g* and *h*.

The other ends of these two hoses *g* and *h* are conveniently connected with a mouthpiece *i*. The latter has a central passage communicating with the internal hose *h* and an annular space communicating on the one hand with the space between the two hoses *g* and *h* and on the other hand with a plurality
45 of perforations 25 arranged in the conical end face. The mouthpiece *i* can be introduced into the animal anus.

The apparatus is operated as follows:

After putting up the pump P and the mixing vessel M on the soil or floor the suction hose *c* is inserted in the source of water and attached to the bottom valve
50 box 6. The member *z* is placed in the convenient position, for example by bringing its handle *k* into the position shown at Fig. 8, so that the holes 3 and 5 of this member register with those 1 and 2 respectively of the other member *y*

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as is shown at Fig. 12. This means, that the right passage of the three-way cock T in Fig. 1 is put into communication with the annular space between the two hoses *g* and *h*, while the internal hose communicates through the hole 2 with the atmosphere. The lever *q* is brought into the position shown in full lines at Fig. 1, so that by the plug *f*, see Fig. 10, the right passage is put into communication with the left passage, that is to say with the pump P, while the suction valve *d* is relieved from the lever *s*. The handle 9 is moved up and down several times to suck water, until water flows out of the mouthpiece *i*, when the latter is introduced into the animal anus. On forcing downward the handle 9 water will pass through the annular space between the two hoses *g* and *h* into the large intestine and successively loosen and drive out the feces through the internal hose *h* to without. Thus all objectionable dammings or pressure are avoided. The handle 9 may be moved up and down several times. Meanwhile the perforated box or receptacle *v* is filled with drugs or other medicaments, either kindled, or not, as the case may be, and introduced into the cylinder *p*, after which the cover 15 is closed. At a convenient moment the lever *q* is turned to the left into the other position indicated by the dotted line in Fig. 1 to place the right passage of the three-way cock T into communication with the mixing vessel M, see Fig. 11, and to check the delivery of water by opening the suction valve *d*. On forcing the handle 9 downward air will enter the cylinder *b* through the inlet valve *t* and on moving upward the handle 9 this air will pass through the opened delivery valve *u* and the drugs or the like in the box *v* and mix with the smoke or gases while in the former case effecting the combustion. This mixture passes through the three-way cock T and the space between the two hoses *g* and *h* into the entrails where the smoke or gases will act antiseptically or stimulate the healing process respectively as the case may be. If it is desired to prevent smoke or gases from escaping through the hole 2, the member *z* is so turned as to bring its handle *k* into the vertical position (see Figs. 5 & 7), so that the hole 4 of the member *z* registers with that 1 of the other member *y*, while all the other holes 3, 5 and 2 remain covered. Then the mixture of air and smoke or gas passes through the internal hose *h* to the animal body and is allowed to exert its influence. From time to time, if so desired, the lever *q* may be reversed to turn on the water. When so preferred, the member *z* may be so turned as to bring its handle *k* into the opposite horizontal position shown at Fig. 9, when its holes 5 and 3 will register with those 1 and 2 respectively of the member *y*. This means that the water or the mixture of air and smoke or gas will now pass through the internal hose *h* to the animal body and return through the perforations 25 of the mouth-piece *i* and the space between the two hoses *g* and *h* to without through the hole 2.

It is obvious that the manner of operating the apparatus or treating the animal will have to depend upon the circumstances and must be left to the judgment of the veterinary.

The apparatus described so far may be varied in many respects without deviating from the spirit of my invention.

Having now particularly described and ascertained the nature of this said invention and in what manner the same is to be performed, I declare that what I claim is:—

An apparatus for treating animal colics or gripes by evacuating the feces from the large intestines, filling the entrails with water mixed with curatives and assisting the healing process by insufflating antiseptic gases, essentially consisting of a double-acting pump arranged for sucking and expelling water at the bottom and air at the top, a mixing vessel provided with a perforated box for drugs or medicaments and arranged for developing smoke or gases from the drugs or medicaments and mixing them with the air, a three-way cock for the passage of either the water or the mixture of air and smoke or gas, a device for opening the water suction valve of the pump in case the mixture of air and smoke or gas

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is passed through the three-way cock, two hoses one within the other, a mouth-piece to be introduced into the animal anus, and a switching device for arbitrarily passing the water or the mixture of air and smoke or gas from the three-way cock to the animal body through the internal hose or through the space
5 between the two hoses while allowing the dirty water or gases to return through the annular space between the two hoses or through the internal hose respectively and to escape, or not allowing the same to escape, substantially as described and shown and for the purpose set forth.

Dated this 16th day of March, 1905.

S. STEPHAN,
Agent for Applicant.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1905.



Fig. 1.

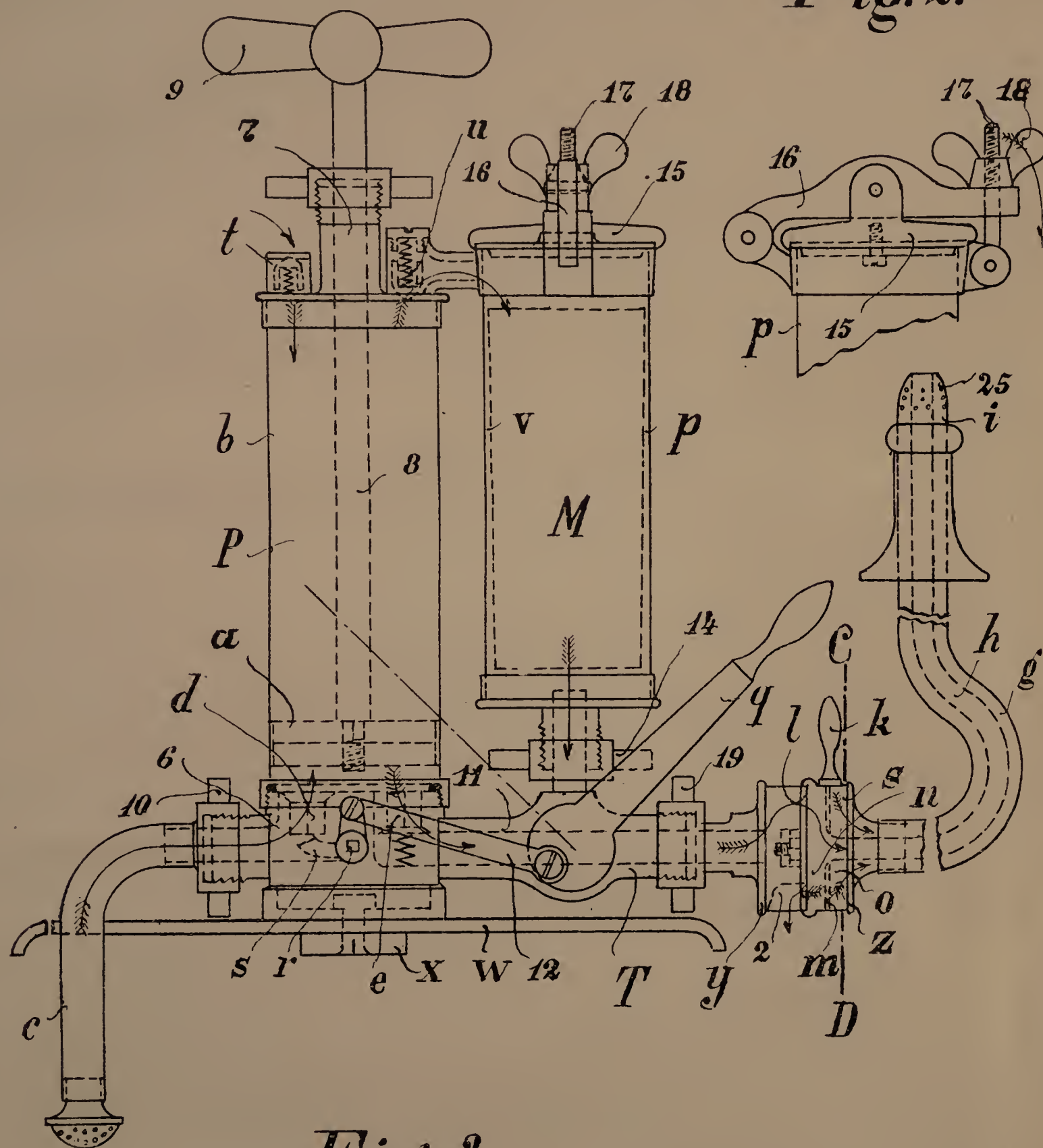


Fig. 2.

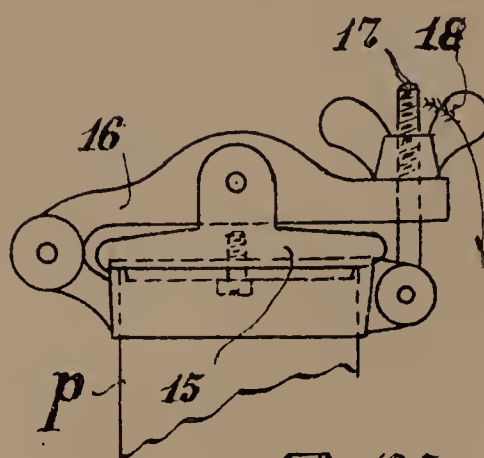


Fig. 3.

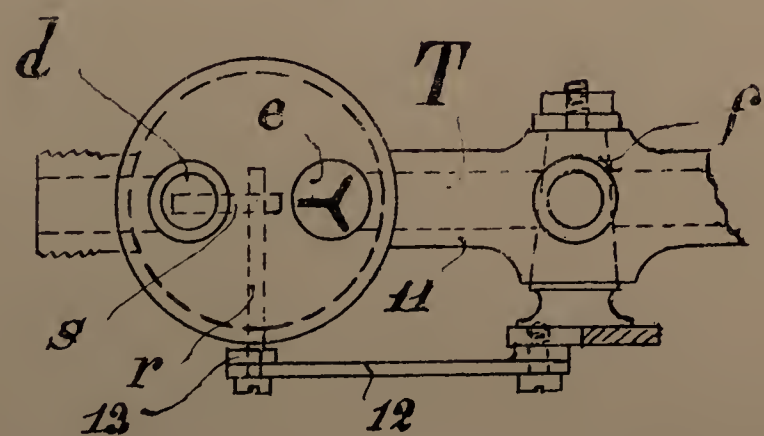


Fig. 4.



Fig. 5.

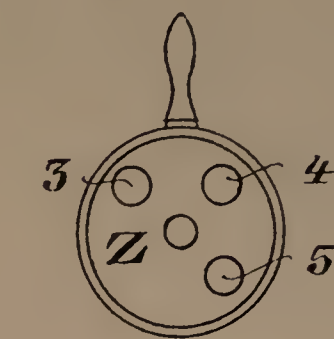


Fig. 6.



Fig. 7.

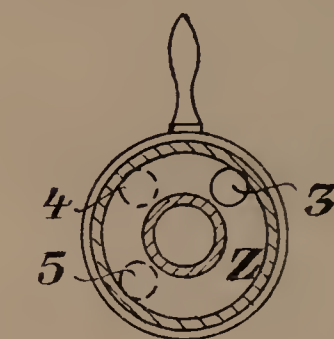


Fig. 8.

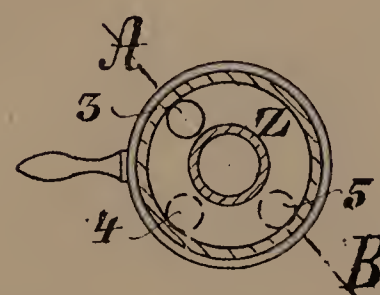


Fig. 9.

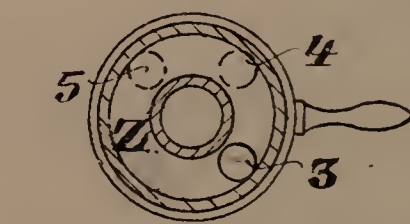


Fig. 10.



Fig. 11.



Fig. 12.

